AMSAT Weekly Satellite Report
Issue: WSR-019
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This report is organized into 3 parts.
Part 1 - operational analog amateur satellites.
Part 2 - operational digital amateur satellites.
Part 3 - semi-operational and non-operational amateur satellites.

SB SAT @ AMSAT $ANS-019.S1
WEEKLY SATELLITE REPORT PART 1

AMSAT NEWS SERVICE BULLETIN 019.S1 FROM AMSAT HQ
SILVER SPRING, MD, JANUARY 19, 2003
TO ALL RADIO AMATEURS
BID: $ANS-019.S1

AO-40 AMSAT OSCAR 40
Launched: November 16, 2000 aboard an Ariane 5 launcher
from Kourou, French Guiana.
Status: Currently, the U/V/L-1/L-2 to S-2/K passband is active
at various times.
Uplink V-band 145.840 - 145.990 MHz CW/LSB
U-band 435.550 - 435.800 MHz CW/LSB
L1-band 1269.250 - 1269.500 MHz CW/LSB
L2-band 1268.325 - 1268.575 MHz CW/LSB
Downlink: S-band 2401.225 - 2401.475 MHz CW/USB
K-band 24,048.010 - 24,048.060 MHz CW/USB

AO-40 experimental transponder operation started on May 05, 2001 at
approximately 08:00 UTC when the U-band and L1-band uplinks were
connected to the S-2 transmitter passband downlink via the Matrix
switch.

The passband times have been extended to MA 40 to 210.
ALON/ALAT is nominally 0/0 with station keeping.
RUDAK will be on for 72 minutes (16 MA units) from MA 110 to 126 on
selected orbits over RUDAK command stations. Note that the middle
beacon and passbands will be off during RUDAK sessions.

The beacon is also off during perigee eclipse periods. Currently,
MA 244 to 2.

K-TX is active from MA 126 to 132.

Wednesday V-Rx sessions are terminated at this time.

Reinhard Sual,YB0KTQ announces the first "AO-40 QSO Party" scheduled
to take place on January 24-27, 2003. The objective is to encourage
more amateurs to enjoy AO-40, especially when conditions are good.
Information on the "AO-40 QSO Party" is available at:
http://202.158.39.236/AO40QSOParty2003.asp

Gene, W3PM has an Excel spreadsheet that will help evaluate your
AO-40 groundstation. Download it at:
http://www.amsat.org/amsat/ftp/software/spreadsheet/w3pm-ao40-v2.1.zip

Scott, NX7U has a program that automatically calculates Uplink S/N
against a supplied Nova for Windows orbital listing. Download it at:
http://members.cox.net/nx7u/ao40/ao40v20_AutoSNR.zip

The "AO-40 FAQ", compiled by Steve, VK5ASF is now available at:

http://www.amsat.org

Ground stations capturing telemetry from AO-40 are asked to send a copy of the data to the AO-40 archive at: ao40-archive@amsat.org.

For the current transponder-operating schedule visit:
http://www.amsat-dl.org/journal/adlj-p3d.htm

[ANS thanks AMSAT-NA and AMSAT-DL for this information]

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ARISS - INTERNATIONAL SPACE STATION
Worldwide packet uplink: 145.990 MHz FM
Region 1 voice uplink: 145.200 MHz FM
Region 2/3 voice uplink: 144.490 MHz FM
Worldwide downlink: 145.800 MHz FM
TNC callsign: RS0ISS-1

The ARISS initial station was launched September 2000 aboard shuttle Atlantis. ARISS is made up of delegates from several major national Amateur Radio organizations, including AMSAT.
Status: Operational.

The current Expedition 6 crew is:
Commander Ken Bowersox, KD5JBP
Flight Engineer Nikolai Budarin, RV3FB
NASA ISS Science Officer Don Pettit, KD5MDT

Don Petit, KD5MDT has been active on voice.

ARISS International Chairman Frank Bauer, KA3HDO, has requested that amateurs refrain from sending e-mail to the ISS crew via the onboard RS0ISS Personal Message System (PMS). "The crew is not answering the e-mail, and we really don't expect them to. If things change, we'll let you know."

Alain, IZ6BYY and Claudio, IK1SLD wish to announce the opening of the ISS Fan Club. Visit: http://www.issfanclub.com

The ISS Fan Club announces the introduction of the "ISS Achievement Award". Visit: http://www.issfanclub.com/iaa

Information on how to access the Amateur Radio equipment aboard the ISS is available at:
http://www.marex-na.org/fileshtml/unprotopage.html

The ISS daily crew schedule can be found at:
http://spaceflight.nasa.gov/station/timelines/
When crew members have free time, they may be available for Amateur Radio operations.

U.S. callsign: NA1SS
Russian callsigns: RS0ISS, RZ3DZR

The QSL routes for W/VE stations working the International Space Station (all callsigns):

U.S. stations (a SASE is required to get a QSL in return):
Margie Bourgoin, KB1DCO
Attn: ARISS Expedition-1 (or 2, 3, etc.) QSL
ARRL, 225 Main Street
Newington, Connecticut 06111

Canadian stations:
Radio Amateurs of Canada

Attn: ARISS Expedition-1 (or 2, 3, etc.) QSL
720 Belfast Road, Suite 217
Ottawa, Ontario KEG 0Z5

European stations (a SASE and 2 IRC's are required to get
a QSL in return).
AMSAT-France
14 bis, rue des Gourlis
92500 Rueil Malmaison
France

More information is available at: http://ariss.gsfc.nasa.gov/

[ANS thanks Will Marchant, KC6ROL, and Jean-Louis Rault, F6AGR,
for this information]
=====
AO-7 AMSAT OSCAR 7
Uplink: 145.850 to 145.950 MHz CW/USB Mode A
432.125 to 432.175 MHz CW/LSB Mode B
Downlink: 29.400 to 29.500 MHz CW/USB Mode A
145.975 to 145.925 MHz CW/USB Mode B
Beacon: 29.502 MHz, 145.972 MHz, 435.1 MHz, 2304.1 MHz
Launched: November 15, 1974 by a Delta 2310 from Vandenberg Air Force Base,
Lompoc, California. Status: Semi-operational in sunlight.

After being declared dead 21 years ago in mid 1981 due to battery failure,
AO-7 has miraculously sprung back to life and was first detected by
Pat Gowen, G3IOR on June 21, 2002 at 1728 UTC. Jan King, W3GEY reports
AO-7 is running off the solar panels only. It will only be on when in
sunlight and off in eclipse. Therefore, AO-7 will reset each orbit and
may not turn on each time.

On July 11, 2002 AO-7 was successfully commanded for the first time since
it was declared dead 21 years ago. Commands were sent and accepted to
change the CW beacon code speed.

Command investigation continues. So far, 11 different commands have been
accepted by AO-7.

Yoshi Imaishi, JF6BCC is compiling an excellent list of observations.
Please send him whatever you have. jf6bcc@jarl.com
You can view the list at:
http://plaza16.mbn.or.jp/~palau/temp/AO7-mode-report.xls

Tim, K3TZ has written a program to decode AO-07 telemetry.
The program can be downloaded at:
http://www.qsl.net/k3tz/files/K3TZ_AO-07_Telemetry_Decoder_0.5.zip

For more AO-7 info: http://www.amsat.org/amsat/sats/n7hpr/ao7.html

[ANS thanks Pat Gowen, G3IOR and Jan King, W3GEY for this information]
=====
AO-10 OSCAR 10
Uplink: 435.030 to 435.180 MHz CW/LSB
Downlink: 145.975 to 145.825 MHz CW/USB
Beacon: 145.810 MHz (unmodulated carrier)
Launched: June 16, 1983 by an Ariane launcher from Kourou,
French Guiana. Status: Semi-operational.

AO-10 has been locked into a Mode-B, 70-cm uplink and
2-meter downlink for several years.

W4SM has more information about the satellite at the following URL:
http://www.cstone.net/~w4sm/AO-10.html

[ANS thanks Stacey Mills, W4SM, for his AO-10 status information
and web site]
=====
UO-14
Uplink: 145.975 MHz FM
Downlink: 435.070 MHz FM
Launched: January 22, 1990 by an Ariane launcher from Kourou,
French Guiana. Status: Operational, mode J.

Tim, KG8OC, features UO-14 information on the Michigan AMSAT
web site:
http://www.qsl.net/kg8oc

Ray, W2RS, has revised the AO-27 FAQ on < www.amsat.org > to
include information on UO-14.

[ANS thanks Chris Jackson, G7UPN/ZL2TPO, for UO-14 information]
=====
RS-15 RADIO SPORT RS-15
Uplink: 145.858 to 145.898 MHz CW/USB
Downlink: 29.354 to 29.394 MHz CW/USB
Beacon: 29.352 MHz (intermittent)
SSB meeting frequency: 29.380 MHz (unofficial)
Launched: December 26, 1994 from the Baikonur Cosmodrome
Status: Semi-operational, mode-A, using a 2-meter uplink and a
10-meter downlink.

Dave, WB6LLO, has operating information for both RS-15 on his
web site. In addition to satellite data, antenna information for
mode-A operation is also featured. The WB6LLO web site URL is:
http://home.san.rr.com/doguimont/uploads

[ANS thanks Dave Guimont, WB6LLO, for this information]
=====
FO-20 JAS-1b
Uplink: 145.90 to 146.00 MHz CW/LSB
Downlink: 435.80 to 435.90 MHz CW/USB
Beacon: 435.795
Launched: February 07, 1990 by an H1 launcher from the Tanegashima
Space Center in Japan.
Status: Operational. FO-20 is in mode JA continuously.

Tak, JA2PKI, reported FO-20 control station operators believe that the
UVC (Under Voltage Controller) is now regulating the transponder. The
controller monitors battery voltage and tries to protect the batteries
from over discharge.

[ANS thanks Kazu Sakamoto, JJ1WTK, for the FO-20 status reports]
=====
RS-20
Beacon: 145.828, 435.319 MHz
Launched: November 28, 2002 aboard a Kosmos 3-M rocket from Plesetsk.
Status: Telemetry heard on the 70 cm beacon.

RS-20 is an experimental payload aboard the Russian satellite known as
Mozhayets -- a navigational and scientific satellite. RS-20 transmits
CW telemetry. Each frame begins and ends with the call sign RS-20.

Table for decoding telemetry is as follows:
Name   Limits   Decoding   Assignment

RS 20   The callsign
UBS   N=100:170   U=N / 10 Volts   On board voltage

```
IBS    N=10:250    I=N / 100 Ampers  On board current
USUN   N=0:180     U=N / 10 Volts    Charge voltage from solar battery
ISUN   N=0:180     I=N / 100 Ampers  Charge current from solar battery
ITXA   N=0:170     I=N / 100 Ampers  D.C. current of the 435 MHz Tx
PTXA   N=0:70      P=N / 10 Watts    UHF power of the 435 MHz Tx
TTXA   N=50:190    T=N - 100 deg C   Temperature of the 435 MHz Tx
ITXB   N=0:150     I=N / 100 Ampers  D.C. current of the 145MHz Tx
PTXB   N=0:70      P=N / 10 Watts    VHF power of the 145MHz Tx
TTXB   N=50:190    T=N - 100 deg C   Temperature of the 145MHz Tx
TEXT   N=30:250    T=N - 100 deg C   Temperature of the outer case
TINT   N=30:190    T=N - 100 deg C   Temperature of the inner case
TOR    N=10:250    T=N - 100 deg C   Temperature of the Earth sensor
UOR    N=0:100     U=N / 10 Volts    Temperature of the Sun sensor
MTX    N=0:255     Table of operational modes. The housekeeping info.
MRX    N=0:255     Table of operational modes. The housekeeping info.
RS 20                                The callsign

Please send reception reports to:
plis@kaluga.ru or zaitzev@izmiran.rssi.ru

[ANS thanks Alexander N. Zaitzev, RW3DZ for this information]
=====
AO-27 AMRAD
Uplink:     145.850 MHz FM
Downlink:   436.795 MHz FM
Launched: September 26, 1993 by an Ariane launcher from Kourou,
French Guiana. Status: Semi-operational, mode J.

AO-27's orbit has moved the satellite into a period of Full Orbit Solar
Illumination. Due to this, the TEPR method of timing the Transmitter does
not work. Therefore AO-27 cannot turn its transmitter on by itself and can
only be turned on by ground station command. We will try to turn it on for
analogue work on the weekends when we are not downloading telemetry. We are
working on new flight software that will let us upload a schedule for the
transmitter. This will take us sometime to write, debug, and upload to
AO-27.
Please help us by being patient during this process. E-mail about when the
satellite will be on will just slow us down. We are working quickly but
carefully
to get AO-27 back in analogue mode. As a bonus to this orbit, during the
seasons
of Full Orbit Solar Illumination, we will be able to have the transmitter on
at
night and for different parts of the world.

The latest information on AO-27 from control operator Michael
Wyrick, N3UC (former N4USI), can be found at:
http://www.ao27.org

An AO-27 question-and-answer page is available on the AMSAT-NA web
site, with updates by Ray, W2RS. The URL is:
http://www.amsat.org/amsat/intro/ao27faq.html

[ANS thanks AMRAD for AO-27 information]
=====
FO-29 JAS-2
Launched: August 17, 1996, by an H-2 launcher from the Tanegashima
Space Center in Japan. Status: Operational.

Voice/CW Mode JA
Uplink:     145.90 to 146.00 MHz CW/LSB
Downlink:   435.80 to 435.90 MHz CW/USB
Beacon:     435.795 MHz
```

Digital Mode JD
Uplink: 145.850 145.870 145.910 MHz FM
Downlink: 435.910 MHz 1200-baud BPSK or 9600-baud FSK
Callsign: 8J1JCS
Digitalker: 435.910 MHz

Mineo, JE9PEL, has an FO-29 satellite telemetry analysis program that will automatically analyze all digital telemetry from the satellite (such as current, voltage and temperature). FO29CWTE is available at: http://www.ne.jp/asahi/hamradio/je9pel/

[ANS thanks Kazu Sakamoto, JJ1WTK, for the FO-29 status reports]
=====
SO-41 SAUDISAT-1A
Uplink: 145.850 MHz
Downlink: 436.775 MHz
Broadcast Callsign: SASAT1-11
BBS: SASAT1-12
Launched: September 26, 2000 aboard a converted Soviet ballistic missile from the Baikonur Cosmodrome.
Status: Operational but intermittent.

The spacecraft is operating in Mode-J, currently configured as an analog FM voice repeater, as power and spacecraft experiments permit.

Further information is available at:
http://www.amsat.org/amsat/sats/n7hpr/so41.html

[ANS thanks Turki Al-Saud for this information]
=====
SO-50 SAUDISAT-1C
Uplink: 145.850 MHz (67.0 Hz PL tone)
Downlink: 436.800 MHz
Launched: December 20, 2002 aboard a converted Soviet ballistic missile from the Baikonur Cosmodrome. Status: Operational.

SO-50 carries several experiments, including a new mode J FM amateur repeater experiment operating on 145.850 MHz uplink and 436.800 MHz downlink.
The repeater is available to amateurs worldwide as power permits, using a 67.0
Hertz tone on the uplink, for on-demand activation.

[ANS thanks Turki Al-Saud for this information]

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SB SAT @ AMSAT $ANS019.S2
WEEKLY SATELLITE REPORT PART 2

AMSAT NEWS SERVICE BULLETIN 019.S2 FROM AMSAT HQ
SILVER SPRING, MD, JANUARY 19, 2003
TO ALL RADIO AMATEURS
BID: $ANS-019.S2

UO-11 OSCAR-11
Downlink: 145.826 MHz FM (1200-baud AFSK)
Mode-S Beacon: 2401.500 MHz
Launched: March 1, 1984 by a Delta-Thor rocket from Vandenberg Air Force Base in California. Status: Semi-operational.

OSCAR-11 is currently operating in a default mode, controlled by the watch-dog timer. The satellite transmits continuous ASCII telemetry for about seven days on 145.826 MHz, followed by about 14 days of

silence. The mode-S beacon on 2401.500 MHz is ON continuously.

At the present time, ground control are unable to command the
satellite, due to low temperatures affecting the command decoder.
They will attempt to command the satellite when the command decoder
temperature has risen to 15C.

The following operating schedule is currently suspended.

ASCII status (210 seconds)
ASCII bulletin (60 seconds)
BINARY SEU (30 seconds)
ASCII TLM (90 seconds)
ASCII WOD (120 seconds)
ASCII bulletin (60 seconds)
BINARY ENG (30 seconds)

The ASCII bulletin is currently a static message, detailing modes and
frequencies of all active Amateur Radio satellites.

More information on OSCAR-11 is available at the following URL:
http://www.users.zetnet.co.uk/clivew/

[ANS thanks Clive Wallis, G3CWV, for OSCAR-11 status information]
=====
AO-16 PACSAT
Uplink: 145.90 145.92 145.94 145.96 MHz FM
(using 1200-baud Manchester FSK)
Downlink: 437.026 MHz SSB (1200-baud PSK)
Mode-S Beacon: 2401.1428 MHz
Broadcast Callsign: PACSAT-11
BBS: PACSAT-12
Launched: January 22, 1990 by an Ariane launcher from Kourou,
French Guiana. Status: Semi-operational, the digipeater command is on.

A WOD collection of current graphics along with general information
and telemetry samples can be found at:
www.telecable.es/personales/ea1bcu

[ANS thanks Miguel Menendez, EA1BCU, for AO-16 status information]
=====
UO-22 UOSAT
Uplink: 145.900 FM 9600-baud FSK
Downlink: 435.120 MHz FM
Broadcast Callsign: UOSAT5-11
BBS: UOSAT5-12
Launched: July 17, 1991 by an Ariane launcher from Kourou,
French Guiana. Status: Operational.

On November 21, 2002 Chris Jackson, G7UPN reported:

UO-22 is operating OK at the moment. Some new software has been loaded to
try and keep the downlink operating most of the time. It seems that after
around 60000 charge/discharge cycles the Nicad batteries are starting to
show their age!

The downlink will be switched off from time to time over certain parts
of the globe. This is required to allow the attitude control system to
operate correctly since the power system cannot supply enough power to
support both the transmitter and the magnetorquers.

More information on the satellite is available at the following URL:
http://www.sstl.co.uk/

[ANS thanks Chris Jackson, G7UPN/ZL2TPO, for UO-22 information
and Jim Weisenberger, AA7KC, for status information]
=====
IO-26 ITAMSAT
Uplink: 145.875 145.900 145.925 145.950 MHz
FM (1200-baud)
Downlink: 435.812 MHz SSB
Broadcast Callsign: ITMSAT-11
BBS: ITMSAT-12
Launched: September 26, 1993 by an Ariane launcher from Kourou,
French Guiana. Status: Semi-operational, the digipeater function is on
and open for APRS users.

On November 18, 2002 Alberto, IK2BD reported:

The current configuration of IO-26 allows only limited telemetry in MBL
(safe)
mode. To enable full telemetry and digipeating, we must re-load the full IHT
high level software suite. This was delayed several times, but we plan to do
that in the near future. When the IHT code is running, the bulletin will
announce that.

[ANS thanks ITAMSAT Project Manager Alberto E. Zagni, I2KBD, for
IO-26 information]
=====
NO-44 PCSAT
Uplink/downlink: 145.827 MHz 1200 baud AX-25 AFSK via W3ADO-1
Aux/Uplink: 435.250 MHz 9600 baud via PCSAT-2 (off)
APRS Downlink: 144.390 MHz (Region 2)
Launched: September 30, 2001 aboard an Athena-1 rocket from the
Kodiak, Alaska launch complex. Status: Operational.

PCSat is a 1200-baud APRS digipeater designed for use by
stations using hand-held or mobile transceivers. Downlinks feed a
central web site < http://pcsat.aprs.org >. The APRS-equipped
PCSat was built by midshipmen from the U.S. Naval Academy
under the guidance of Bob Bruninga, WB4APR.

The latest status on NO-44 has it working in daylight. It dies the
instant it goes into darkness, and takes about 10 minutes back in
the sun before it can sustain a packet. If a battery cell doesn't short,
it will be back to 100% 24 hour operations by 12 Feb for a month.

A new version of PCSAT.EXE has been posted at:
ftp://tapr.org/dosstuff/APRSdos/pcsat017.zip

For more information, visit the PCSat web site at:
http://web.usna.navy.mil/~bruninga/pcsat.html

[ANS thanks Bob Bruninga, WB4APR, for PCSat information]
=====
MO-46 TIUNGSAT-1
Uplink: 145.850 or 145.925 MHz 9600-baud FSK
Downlink: 437.325 MHz
Broadcast callsign: MYSAT3-11
BBS: MYSAT3-12
Launched: September 26, 2000 aboard a converted Soviet ballistic
missile from the Baikonur Cosmodrome. Status: Operational at
38k4-baud FSK.

TiungSat-1 is Malaysia's first micro-satellite and in addition to
commercial land and weather imaging payloads offers FM and FSK
Amateur Radio communication.

TiungSat-1, named after the mynah bird of Malaysia, was developed as
a collaborative effort between the Malaysian government and Surrey
Satellite Technology Ltd.

[ANS thanks Chris Jackson, G7UPN/ZL2TPO, for this information]
=====
AO-49 AATiS OSCAR-49 (SAFIR-M)
Uplink   435.275 1200-baud AX.25
Downlink   145.825 9600-baud AX.25
            (optional voice message)
Broadcast callsign: DP0AIS
Launched: December 20, 2002 aboard a converted Soviet ballistic
missile from the Baikonur Cosmodrome. Status: Operational.

AO-49 (SAFIR-M) is a German amateur radio payload onboard the
small German scientific satellite "RUBIN-2".

AO-49 was built by the German amateur radio association
"AATiS e.V." (German acronym for "Arbeitskreis Amateurfunk
und Telekommunikation in der Schule", which means: 'working group
for amateur radio and telecommunications in schools').
AO-49 is designed as a "store and broadcast" system for APRS
based messages, dedicated for the use of schools in combination
with the existing WX-Net and planned buoy experiments in Germany.

Martin DG8UAU has written a small software program "SAFIR-M Decoder"
to allow decoding of the received DATA0 frames. It is available at:
http://amend.gmxhome.de in the section Aktuelles.

Details on AO-49 (SAFIR-M) can be found at:
http://amend.gmxhome.de
Information about AATiS e.V. is available at:
http://www.aatis.de

[ANS thanks Oliver Amend, DG6BCE for this information]

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SB SAT @ AMSAT $ANS-019.S3
WEEKLY SATELLITE REPORT PART 3

AMSAT NEWS SERVICE BULLETIN 019.S3 FROM AMSAT HQ
SILVER SPRING, MD, JANUARY 19, 2003
TO ALL RADIO AMATEURS
BID: $ANS-019.S3

THE FOLLOWING ARE IN ORBIT BUT ARE
SEMI-OPERATIONAL AT THIS TIME:

LO-19 LUSAT
Uplink: 145.84 145.86 145.88 145.90 MHz FM
            (using 1200-baud Manchester FSK)
CW downlink: 437.125 MHz
Digital downlink: 437.150 MHz SSB (RC-BPSK 1200-baud PSK)
Broadcast Callsign: LUSAT-11
BBS: LUSAT-12
Launched: January 22, 1990 by an Ariane launcher from Kourou, French
Guiana. Status: Beacon only. The CW beacon is sending eight telemetry
channels and one status channel on 437.126 MHz. No BBS service is
available. The digipeater is not active.

General information and telemetry samples can be found at:
www.telecable.es/personales/ea1bcu

[ANS thanks Miguel Menendez, EA1BCU, for LO-19 status information]
=====
GO-32 TECHSAT-1B
Downlink: 435.225 MHz FM (9600-baud FSK)
(435.325 n/a - temperature problems)
Uplinks: 145.850, 145.890, 145.930 FM
1269.700, 1269.800, 1269.900 FM
Broadcast Callsign: 4XTECH-11
BBS Callsign: 4XTECH-12
Launched: July 10, 1998 by a Russian Zenit rocket from the Baikonur Cosmodrome. Status: Semi-operational.

Ground Station Control only, System beacon every 30 seconds.
No UPLOADING or DIGI are available at anytime.
Output Power - 1W

WinTelem v1.0 - TechSat's Telemetry decoding software is now available for amateur use.

For more info check: http://www.iarc.org/techsat/

[ANS thanks Tidhar Teucher, 4Z5CA, and Shlomo Menuhin, 4X1AS for GO-32 status information]
=====
SO-33 SEDSAT-1
Downlink: 437.910 MHz FM (9600-baud FSK)
Launched: October 24, 1998 by a Delta 2 rocket from Cape Canaveral, Florida. Status: Semi-operational.

The satellite is not currently available for uplink transmissions and the image and transponder recovery efforts have been unsuccessful.

SO-33 is now transmitting only a TIME STAMP, and the other KISS data seems to be invalid.

SedSat-1 signifies Students for the Exploration and Development of Space (satellite number one).

SedSat-1 has downlinked months worth of telemetry data on the performance of its electrical power system parameters. The Nickel Metal Hydride batteries on the spacecraft were experimental and experienced some abuse due to a power negative situation. This situation has provided NASA with useful information. With the exception of the imaging system and the use of the transponders, SedSat-1 has been judged a success.

For more information on SedSat-1 visit the satellite web site:
http://seds.uah.edu/projects/sedsat/sedsat.htm

[ANS has no further information]

THE FOLLOWING ARE IN ORBIT BUT ARE
NON-OPERATIONAL AT THIS TIME:

RS-12 RADIO SPORT RS-12
Uplink: 21.210 to 21.250 MHz CW/USB
Downlink: 29.410 to 29.450 MHz CW/USB
Beacon: 29.408 MHz
Robot: 29.454 MHz
Launched: February 5, 1991 aboard a Russian Cosmos C launcher
Status: Non-operational.

Hams reporting to the RS-12/13 Forum from across the US and Europe have stated that they have not been able to hear any beacons from

either the RS-12 or RS-13 satellite packages since August 20, 2002.
+++
Jerry, K5OE reports the following:

I recently queried several of my Russian friends and received this
response from Oleg, RV3TH, in Nihzni Novgorod:

Yesterday I made a telephone call to my friend from Siberia.
He works in one of the checking centres for satellites. He says:
"Electronical devices of satellite COSMOS2123 (and RS12/13)
perished after superpower protonflashes on the Sun (July/August 2002)"
Control devices and receivers perished first, and then a beacon.
They have hopes to restore the satellite, but it is very small.
Jerry, you can use this information, but it is NON OFFICIAL
information. (above paraphrased by N1JEZ)
+++
The latest information on RS-12 and RS-13 can be found on the AC5DK
RS-12/13 Satellite Operators page at:
http://www.qsl.net/ac5dk/rs1213/rs1213.html

[ANS thanks Kevin Manzer, AC5DK, for RS-12 information]
=====
RS-13 RADIO SPORT RS-13
Uplink: 21.260 to 21.300 MHz CW/USB
Downlink: 145.860 to 145.900 MHz CW/USB
Beacon: 145.860 MHz
Robot: 145.908 MHz
Launched: February 5, 1991 aboard a Russian Cosmos C launcher
Status: Non-operational.

Hams reporting to the RS-12/13 Forum from across the US and Europe
have stated that they have not been able to hear any beacons from
either the RS-12 or RS-13 satellite packages since August 20, 2002.
+++
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I recently queried several of my Russian friends and received this
response from Oleg, RV3TH, in Nihzni Novgorod:

Yesterday I made a telephone call to my friend from Siberia.
He works in one of the checking centres for satellites. He says:
"Electronical devices of satellite COSMOS2123 (and RS12/13)
perished after superpower protonflashes on the Sun (July/August 2002)"
Control devices and receivers perished first, and then a beacon.
They have hopes to restore the satellite, but it is very small.
Jerry, you can use this information, but it is NON OFFICIAL
information. (above paraphrased by N1JEZ)
+++
The latest information on RS-12 and RS-13 can be found on the AC5DK
RS-12/13 Satellite Operators page at:
http://www.qsl.net/ac5dk/rs1213/rs1213.html

[ANS thanks Kevin Manzer, AC5DK, for this information]
=====
KO-23 KITSAT
Uplink: 145.900 MHz FM (9600-baud FSK)
Downlink: 435.170 MHz FM
Broadcast Callsign: HLO1-11
BBS: HLO1-12
Launched: August 10, 1992 by an Ariane launcher from Kourou,
French Guiana. Status: Non-operational.

Jim, AA7KC, reports that KO-23's downlink transmitter continues in a
non-operational status.

[ANS thanks Jim Weisenberger, AA7KC, and KyungHee Kim, HL0ENJ,
for KO-23 status information]
=====
KO-25 KITSAT
Uplink: 145.980 MHz FM (9600-baud FSK)
Downlink: 436.500 MHz FM
Broadcast Callsign: HL02-11
BBS: HL02-12
Launched: September 26, 1993 by an Ariane launcher from Kourou,
French Guiana. Status: Non-operational

[ANS thanks Jim Weisenberger, AA7KC, and Andrew, G8TZJ for this information]
=====
PO-34 PANSAT
Uplink/downlink frequency (listed on the PanSat web site) 436.500 MHz
Launched: October 30, 1998 by the Shuttle Discovery. Status: Telemetry
downloads only.

The satellite is not available for general uplink transmissions.

The Naval Postgraduate School developed PanSat. At the time of
launch, PanSat spread-spectrum digital transponders were to
be available to Amateur Radio operators along with software to utilize
this technology.

The satellite is still operating, however, the spread spectrum packet
radio portion never took place. The spacecraft is now beyond it's
initial 2-year mission life, but telemetry records are still being
downloaded.

For more information, visit the official PanSat web site at:
http://www.sp.nps.navy.mil/pansat/

PanSat was the featured cover article on the July/August 1999 issue of
the AMSAT-NA Journal (the story written by KD6DRA and N7HPR).

[ANS has no further information]
=====
UO-36 UoSAT-12
Uplink: 145.960 MHz (9600-baud FSK)
Downlink: 437.025 MHz 437.400 MHz
Broadcast Callsign: UO121-11
BBS: UO121-12
Launched: April 21, 1999 by a Russian launcher from the Baikonur
Cosmodrome. Status: Unknown.

UO-36 carries a number of imaging payloads, digital store-and-forward
communications and mode L/S transponders.

Paul, KB2SHU, tells ANS that UO-36 has not been operational (over
North America) since late July 2001. In addition, Sangat, 9M2SS,
reports he has not copied UO-36 since July 30, 2001.

The VK5HI viewer shareware for UO-36 is available on the AMSAT-NA
web site at the following URL:
ftp://ftp.amsat.org/amsat/software/win32/display/ccddsp97-119.zip

Further information on UO-36 is available at: http://www.sstl.co.uk/

[ANS thanks Chris G7UPN/ZL2TPO, and the University of Surrey for
UO-36 information]
=====
SO-42 SAUDISAT-1B

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Uplink:         to be released
Downlink:       437.075 MHz
Broadcast Callsign: SASAT2-11
BBS:            SASAT2-12
Launched: September 26, 2000 aboard a converted Soviet ballistic
missile from the Baikonur Cosmodrome. Status: Unknown, ANS has
received no additional information.

When/if operational, SaudiSat-1B will operate as 9600-baud digital
store-and-forward systems as well analog FM repeater mode capability.
One of two new ham satellites from the Kingdom of Saudi Arabia built by
the Space Research Institute at the King Abdulaziz City for Science and
Technology.

Further information is available at:
http://www.amsat.org/amsat/sats/n7hpr/so42.html

[ANS thanks Turki Al-Saud for this information]
=====
NO-45 SAPPHIRE
Downlink:   437.095 MHz 1200 baud AX-25 AFSK
Uplink:     145.945 MHz UI Digipeater
Launched: September 30, 2001 aboard an Athena-1 rocket from the
Kodiak, Alaska launch complex. Status: Non-operational.

Student built Sapphire was launched through the U.S. Naval
Academy Satellite program. Its primary missions are sensor
experiments, a camera, and voice synthesizer. For more information,
visit the Sapphire web site at:
http://students.cec.wustl.edu/~sapphire/sapphire_overview.html

[ANS thanks Bob Bruninga, WB4APR, for PCSat information]

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ANS is released worldwide via the AMSAT ANS e-mail reflector and a live
radiocast on the AMSAT-NA 20-meter net held each Sunday on 14.282 MHz.
Pre-net operations start at 18:00 UTC, with current ANS bulletins
transmitted to the eastern U.S. at 19:00 UTC and to the western
U.S. at 19:30 UTC.

Information on AMSAT-NA is available at the following URL:
http://www.amsat.org

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       888-322-6728
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Currently, AMSAT-NA supports the following (free) mailing lists:

* AMSAT News Service (ANS)
* General satellite discussion (AMSAT-BB)
* Orbit data (KEPS)
* Manned space missions (SAREX)
* District of Columbia area (AMSAT-DC)
* New England area (AMSAT-NE)
* AMSAT Educational Liaison mailing list (AMSAT-EDU)
* AMSAT K-12 Educational Liaison mailing list (AMSAT-K12)

A daily digest version is available for each list.
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To subscribe, or for more list information, visit the following URL:
http://www.amsat.org/amsat/listserv/menu.html

In addition to regular membership, AMSAT-NA offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT-NA Office.

AMSAT-NA has developed an on-line volunteer survey, designed to identify the interests and skills of those who may be available to directly help in efforts to develop the amateur satellite program. The survey is designed to be completed and returned on-line, and takes only a few minutes to fill out. To request the survey, simply send an e-mail request to:
volunteer@amsat.org

ANS would like to thank Mike Seguin, N1JEZ, ANS principal satellite investigator and Jerry Brown, K5OE for helping provide current satellite information.

ANS is always dedicated to past ANS editor 'BJ' Arts, WT0N, and to the memory of longtime AMSAT supporters Werner Haas, DJ5KQ, and Dennis Kitchen, G0FCL.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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